

# Variable Capacity Chiller

## Smooth Transitions from 12,000 to 48,000 BTUs As Needed



Maximize chiller efficiency and reduce electrical load fluctuations with Dometic's innovative Variable Capacity Chiller (VARC48). At full speed, the VARC48 provides a nominal four tons of cooling or heating. It also has the ability to modulate its speed all the way down to one ton in order to precisely match demand.

Other chillers use a basic all-on or all-off method for water-loop temperature control, continuously starting and stopping which greatly changes the load on the generator. By precisely balancing output to load, the swing (hysteresis) in loop water temperature is minimized. The VARC48 uses a precision PID (proportional integral derivative) loop control algorithm that modulates the compressor speed and balances chiller output with required load. This smooth operation eliminates large swings in current on the generator.

The VARC48 uses the advanced technology of an Electronic Expansion Valve (EEV). This provides more precise control of superheat across a broad range of conditions with no erratic swings as the valve reacts to temperature and pressure changes (no "hunting"). Using an advanced algorithm, superior superheat control is maintained over extreme operating conditions.

The innovative design of plumbing connections improves ease of installation and maintenance. All connections come straight out of the unit to simplify the manifold and minimize the final installation depth while also presenting clean and professional plumbing connections. The water connections are all parallel, but no two are in the same horizontal or vertical plane, which make the manifold very simple. Whether horizontal or vertical, the manifolds can be in the same plane and need not cross.

An optional high-resolution color touchscreen provides a dynamic interface and improved system metrics and control. Access detailed, complex system information from a single location and interact accordingly.



Built-in variable frequency drive.



Integrated digital chiller control.



Electronic expansion valve for precise control of superheat.

### Key Benefits

- Variable capacity from 1 to 4 tons as thermal load changes
- Compact footprint
- Operates steadily at lower speeds to provide maximum efficiency
- Select from 3 user-adjustable amp limits: Econo, Standard, or Boost
- Electronic expansion valve for precise control of superheat
- Easy, flexible plumbing configurations with less depth needed

### Special Options

- High-resolution, interactive touchscreen display
- Dometic STIIC software provides interactive management via smart phone, tablet, or computer
- Dometic STIIC software provides secure access from Dometic global technical support

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by Dometic GROUP

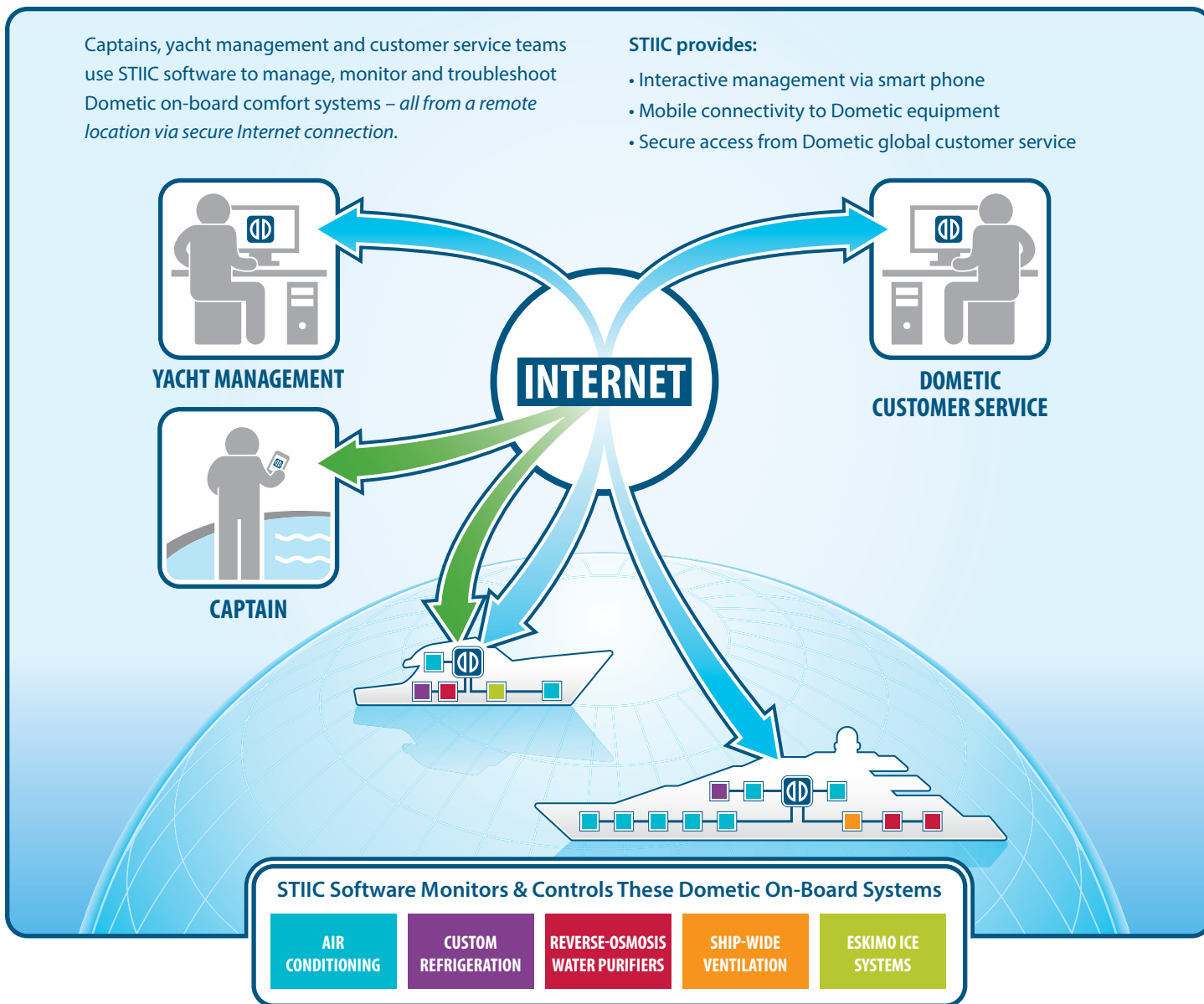
## Specifications for Variable Capacity Chiller

Model	Capacity (BTU/hr)	Voltage/Cycle/Phase	Full Load Amps (FLA) Cool <sup>(1)</sup>	Full Load Amps (FLA) Heat <sup>(2)</sup>	Seawater Connections	Chilled Water Connections	Drain Connections	Seawater Pressure Drop @ 12 GPM	Chilled Water Pressure Drop @ 12 GPM
VARC48	48,000	208-230/50 or 60/1-3	15.9	17.0	7/8 in. OD tube	1 in. NPT	1/2 in. NPT	1.6 PSI	11.3 PSI

<sup>1</sup> At full speed and 230V/50 or 60Hz/1-phase input power.

## Immediate Networking With Dometic STIIC Software

The Variable Capacity Chiller supports Dometic's optional Smart Touch Integrated Control (STIIC) software. This provides remote connectivity and interactive management using Ethernet or an RS485 connection and a free app on your smart phone, tablet, or computer. This two-way interactive intelligence lets you monitor your resources and troubleshoot problems via a mobile device whether you're on-board the boat using WiFi or anywhere on the globe using the Internet.



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